

REMARKS/ARGUMENTS

Priority

The specification has been amended to include a reference to the application to which priority is claimed.

Information Disclosure Statement

The Applicants have previously submitted an Information Disclosure Statement including PTO form 1449. If anything further is required, the Applicants respectfully request clarification.

Claim Objections

Claims 10, 11, and 20 were objected to for various informalities. In response, claims 10, 11, and 20 have been amended. In view of these amendments the Applicants respectfully request that the objections to claims 10, 11, and 20 be withdrawn.

Section 112 Rejection

Claim 17 has been rejected as lacking enablement for not providing disclosure for the dissipation of heat produced by the controller. In response, claim 17 has been amended. In view of the amendment, the Applicants respectfully request that the objection to claim 17 be withdrawn.

Section 103 Rejection

Claims 1 – 5 have been rejected under 35 U.S.C. Section 103(a) as unpatentable over Aikens in view of Yoshioka and Michaelis. Claims 10 and 12 were rejected as unpatentable over Aikens in view of Yoshioka and Morris. Claim 16 was

rejected as unpatentable over Aikens in view of Yoshioka, Michaelas, Cotic, and Altman. The remaining claims have been rejected based on Aikens, Yoshioka, and various other references. Reconsideration of the claims based on the following remarks is respectfully requested.

Each of the independent claims 1, 10, and 16, and the associated dependent claims, have been rejected based on the Aikens and Yoshioka, in combination with various other references. In the Office Action, it is asserted that it would have been obvious to add a heater to the center of the detector disclosed by Aikens, as well as a controller to modulate the heater to have “greater control over the temperature away from the edges of the detector array”, as taught by Yoshioka. The Applicants respectfully disagree that there is any motivation to combine these references.

Aikens discloses an x-ray sensitive photoconductor including a thermoelectric cooler. The thermoelectric cooler removes heat from the photoconductor through a substrate and reduces the temperature of the substrate. The reduced temperature raises the resistivity of the x-ray sensitive photoconductor to reduce dark current to an acceptable level. (See column 2, lines 47 – 50.)

Yoshioka discloses an x-ray tomographic image detector which is divided into a number of separate regions each including heating elements and temperature sensing means. As shown in Fig. 1, the detector includes three sections having three heaters H1, H2, and H3. H1 and H2 are provided at opposing ends of the array and the heater H3 is provided in the center section, such that heating elements are extended across the array. Each of the heated portions include sensors S1, S2, and S3 which are monitored by temperature control circuits 11a – 11c.

The purpose of the Aikens reference, is to cool the photoconductor to improve resistivity, lower conductivity, and therefore to decrease the dark current. Clearly, heating would have the opposite effect. Aikens, therefore, does not suggest the addition of heat, and, in fact, teaches away from the concept of adding heating elements to the assembly.

Yoshioka discloses a device in which the entire array includes heating elements. These elements are dispersed through the entire device and are therefore clearly intended to raise the temperature of the device, throughout the device. Yoshioka neither teaches nor suggests that it is advantageous to include cooling in the system. Again, as the entire object of the invention is to heat the array, Yoshioka teaches away from adding cooling elements.

In the Office Action it is suggested that it would be obvious to combine Aikens and Yoshioka to have “greater control over the temperature away from the edges of the detector array”. The citation, however, is not found in either of the cited references. Furthermore, it is not clear why “providing greater control over the temperature away from the edges of the detector array” is desirable, or even whether combining Aikens and Yoshioka even results in such control. Therefore, if the rejection of any of the claims is to be maintained based on the combination of Aikens and Yoshioka, the Applicants respectfully request a clarification of where the motivation to combine these references is found, why it is applicable to the claims of the present invention, and what is intended to be achieved by the combination. Additionally, if the reliance on Yoshioka is found outside of the English abstract, the Applicants respectfully request that a translation of the reference be provided.

The remaining references cited are provided merely to provide the limitations of the claims not found in Yoshioka or Aikens. These additional references do not rectify any of the problems noted above with the combination of Aikens and Yoshioka. Furthermore, none of these proposed combinations is supported by a citation in any reference suggesting the combination. Many of the citations, furthermore, are not even within the field of medical imaging. It appears, therefore, that each of these combinations are motivated purely by Applicant's disclosure.

In view of the foregoing remarks, the Applicants submit that it is not obvious to combine Aikens and Yoshioka, and the Applicants respectfully request that the rejection of claims 1 – 20 as combinations of Yoshioka and Aikens with other references be withdrawn.

Conclusion

In view of the fact that the combination of Aikens and Yoshioko is not obvious and that the claims, as amended, are therefore in condition for allowance. The Applicants respectfully request that a notice of allowance for claims 1 – 20 be issued.

Appl. No. 10/716,367
Response Dated February 24, 2005
Reply to Office Action of November 24, 2004

The Commissioner is authorized to charge any fees under 37 CFR § 1.17 that may be due on this application to Deposit Account 17-0055. The Commissioner is also authorized to treat this amendment and any future reply in this matter requiring a petition for an extension of time as incorporating a petition for extension of time for the appropriate length of time as provided by 37 CFR § 136(a)(3).

Respectfully submitted,

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